PREFACE

This research report encapsulates an 11-month Military Research Fellowship, chartered in 1987 by the Under Secretary of Defense (Acquisition), today known as the Under Secretary of Defense (Acquisition and Technology). This fellowship program, managed by the Defense Systems Management College, is a unique opportunity for selected officers to supplement Department of Defense (DoD) research goals and to impact the Defense acquisition process. The fellowship has two primary goals: first, to provide an advanced professional education for selected military officers from the Army, Navy, and Air Force; second, to conduct independent research exploring new and innovative concepts to benefit the Defense acquisition community.

The research fellowship begins with an intensive 12-week international executive education program at the Harvard University Graduate School of Business. The Program for Management Development (PMD) is a resident program involving a highly select group with over 130 executives from 32 different countries. Using the renowned "case study method" pioneered by the Harvard Business School, PMD features detailed examples derived from actual business situations that are relevant to current global business trends and economic conditions. Focus modules include Foundations of Finance; Achieving Breakthrough Service; Building Operating Capabilities; Marketing Management; Competition and Strategy; Finance and Management Control; Human Resources Leadership; and International Business, Government, and Trade. The constant daily interaction between professionals with such diverse social, political, business, and management experiences, offers perspectives that are impossible to replicate in a DoD educational environment.

The remainder of the fellowship involved developing and conducting a joint research project, culminating in the publication of this report; and presenting a series of briefings to DoD acquisition officials. In our early investigations, we noted that many of the goals of current Acquisition Reform initiatives are based upon notable successes achieved in the business community as they move into the information age. Looking more closely, it became clear that much of the success in industry was made possible only through the effective development and use of an integrated digital environment. This environment enabled improved communications, data sharing, and business process improvement and reengineering. The exploitation of a digital environment has become a necessary precondition to achieving the significant cost savings, reductions in cycle time, improved management efficiencies, and optimized life cycle support that are acquisition reform goals.

Unfortunately, we also found the acquisition community is currently not well positioned to take advantage of this emerging field. There is no *single face* or voice that guides program managers (PMs) in their efforts to move into the information age. The DoD initiatives to develop integrated digital environments and operations are disparate. Education and training programs are functionally based, and do not address an integrated approach to management, information, or process improvement. While many PMs are attempting to be innovative and exploit digital technology,

for the most part their actions are independent initiatives and do not reflect a concerted and coordinated effort on the part of DoD. This report is intended to assist PMs and their staffs understand the digital environment. It does so by: (a) describing the digital environment; (b) examining the major players promoting the integrated digital environment and their roles within the acquisition community; (c) identifying the need for an integrated digital environment; (d) describing the experiences in the field of "going digital;" (e) providing a roadmap for the PM that can assist in exploiting an integrated digital environment; and (f) discussing relevant issues and offering recommendations for the future.

This challenging research endeavor would not have been possible without the support and cooperation of many people. We are incredibly grateful for the Harvard Business School experience. The faculty, staff, and our fellow PMD participants helped us to grow professionally and personally in ways that are difficult to describe, impossible to measure, but will remain with us forever. We wish to thank Dr. James Price, Dean, Research, Consulting and Information Division at DSMC, for his helpful advice and guidance throughout the research effort; and Ms. Kathy Smith, administration support to the Faculty Division, did a great job of transcribing over 100 hours of taped interviews.

This report also would not have been possible without the cooperative spirit of the DoD acquisition community. We conducted more than 100 interviews with key personnel from government, industry, and academia who were involved in the exploitation of the digital environment. While they all deserve individual recognition, in all fairness there are too many to mention by name. All our interviewees were candid and very accommodating. We sincerely thank them for all their contributions. To them we say we hope you find this report as helpful to you as you were to us.

The Research Fellows also extend a special note of thanks to Ms. Joan Sable, Research Associate and coordinator of the Military Research Fellowship. Her assistance throughout this program, both at DSMC and Harvard, helped everything run smoothly and allowed us to keep focused on our research.

Finally, none of this would have been possible without the love, sacrifice, and support of our families. Extended absences, numerous trips, and the general intensity of independent research made this a challenging year. Their patience and understanding were crucial. We owe them everything.